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Remarks/Arguments

Claims 1 and 4-6

The Examiner has rejected claims 1 and 4-6 under 35 U.S.C. § 103(a) as being unpatentable over Johnson et al. (US 2,382,421) in view of Rockwell (US 1,420,753). However, the Examiner has not met his burden of establishing a prima facie case of obviousness because there is no motivation nor suggestion to combine the teachings of the Johnson and Rockwell references. Thus, withdrawal of this rejection is respectfully requested.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference or combination of prior art references, must teach or suggest all the claim limitations.

As set forth by the Examiner in this case, the Johnson device differs from the claimed invention "in that there is no explicit teaching of a gas inlet means in a closed vessel, which

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admits gas from an area wherein at least a partial vacuum is to be created." The Examiner further asserted that it was well known at the time of the Johnson device "that inlet valves could be used in order to better regulate the fluid flow into or out of a system," as illustrated by the Rockwell patent. Thus, according to the Examiner, "[i]t would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to modify the Johnson et al. device by using a gas inlet valve as taught by Rockwell."

However, the combined teachings of the Johnson and Rockwell patents do not render the claimed invention prima facie obvious because there is no motivation nor suggestion to combine the teachings of the Johnson and Rockwell references. First, adding the gas inlet valve taught by Rockwell to the Johnson device would change the principle of operation of the Johnson device. Second, adding a gas inlet valve to the Johnson device would render the Johnson device unsatisfactory for its intended purpose. Lastly, assuming arguendo that it is possible to add a gas inlet valve to the Johnson device, there is no teaching in the prior art suggesting the desirability to do so. Thus, for these three reasons, set forth in detail below, there is no motivation nor suggestion to combine the teachings of the Johnson

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and Rockwell references.

First, adding the gas inlet valve taught by Rockwell to the Johnson device would change the principle of operation of the Johnson device. As set forth in *In re Ratti*, if a proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious. 270 F.2d 810 (CCPA 1959). The Johnson device is a hydraulic gas compressor. As set forth in the Johnson patent, "[i]t is the object of this invention to provide an improved compressor of this type whereby more air is entrained in and compressed by a given amount of falling water..." Thus, the Johnson device seeks to maximize the amount of air separated from the water so that the compressed air can be withdrawn from a delivery pipe 65.

In contrast, the claimed invention is directed to a hydraulic vacuum pump. As explained in the specification of the present application, it is well known in the art for hydraulic compressors, such as the Johnson device, to employ a column of falling water, also known as a "barometric leg," to provide compressed air for many industrial purposes, such as ventilation.

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However, the applicant discovered that a system employing a barometric leg can also create substantial vacuums of the order of 25"Hg gage pressure without the use of electric motors. Accordingly, the present invention is directed to a vacuum pump utilizing a barometric leg to pull a substantial vacuum. Further, the present invention also utilizes a gas inlet valve to control the vacuum. Thus, unlike the Johnson device and other prior art compressors, the claimed invention seeks to maximize and control a vacuum, as opposed to compressed air.

Since the Johnson device is directed to a hydraulic gas compressor, adding the gas inlet valve disclosed in the Rockwell patent to the Johnson device so that the Johnson device can provide a controllable vacuum would change the principle of operation of the Johnson device. As stated above, the Johnson device was designed to maximize the amount of compressed air available at a delivery pipe, not to create a vacuum and certainly not to control a vacuum. Since modifying the Johnson device to provide a controllable vacuum would change the principle of operation of the Johnson device, namely, providing compressed air, there is no motivation to combine the teachings of the Johnson and the Rockwell references.

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Second, the addition the gas inlet valve disclosed in the Rockwell patent to the Johnson device would render the Johnson device unsatisfactory for its intended purpose. As stated by the Federal Circuit, if a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900 (Fed. Cir. 1984). As discussed above, the Johnson device was designed to maximize the amount of compressed air available at an outlet delivery pipe. Accordingly, it would be advantageous to have as much air available at an inlet of the compressor device as possible. In contrast, a gas inlet valve would restrict the amount of air flowing into the gas compressor device and would subsequently reduce the amount of compressed air. Thus, adding a gas inlet valve to the Johnson device would undermine the purpose of the device, namely maximizing the amount of compressed air. Since the addition of a gas inlet valve to the Johnson device would render the Johnson device unsatisfactory for its intended purpose, there is no motivation to combine the Johnson and Rockwell references.

Third, there is no teaching in the prior art suggesting the desirability of combining the teachings of the Johnson and

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Rockwell references. According to the Federal Circuit, the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680 (Fed. Cir. 1990). In this case, assuming *arguendo* that it is possible to add a gas inlet valve to the Johnson device, there is no teaching in the prior art suggesting the desirability to do so. Since the Johnson device is a hydraulic compressor, there is no need for a gas inlet control valve. Since a compressor is intended to provide compressed air, as opposed to a vacuum, a gas outlet control valve is desirable, as discussed in the Johnson patent. Further, as set forth above, adding the gas inlet valve disclosed in the Rockwell patent to the Johnson device can actually reduce the amount of compressed air produced by the device. Since it is not desirable to add a gas inlet valve to the Johnson device, there certainly is no teaching in the prior art that suggests the desirability of the combination. Thus, there is no motivation nor suggestion to combine the teachings of the Johnson and Rockwell references.

For the three reasons set forth above, there is no motivation nor suggestion to combine the Johnson and Rockwell patents. Accordingly, withdrawal of the rejection of claims 1

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and 4-6 is respectfully requested.

Claims 2-3

The Examiner has rejected claims 2-3 under 35 U.S.C. § 103(a) as being unpatentable over Johnson et al. (US 2,382,421) as modified by Rockwell (US 1,420,753) and in further view of McGraw-Hill Book Company (Mechanical Engineers Handbook, 1941, pages 1914-1915). However, the Examiner has not met his burden of establishing a prima facie case of obviousness because there is no motivation nor suggestion to combine the teachings of the Johnson and Rockwell references, as explained in detail above. Likewise, withdrawal of rejection of claims 2-3 is respectfully submitted.

In view of the foregoing, reconsideration of the 35 U.S.C. § 103(a) rejection for obviousness is respectfully requested and favorable consideration and allowance of the claims solicited. Should the Examiner have any questions regarding this response, the amendments submitted herewith, or the allowability of the claims, it would be appreciated if the Examiner would contact the undersigned attorney of record at the telephone number provided below for purposes of facilitating prosecution of this application and for scheduling an interview, if necessary.

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Respectfully submitted,

DOWELL & DOWELL, P.C.

A handwritten signature in black ink, appearing to be 'R. Dowell', written over a horizontal line.

By
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